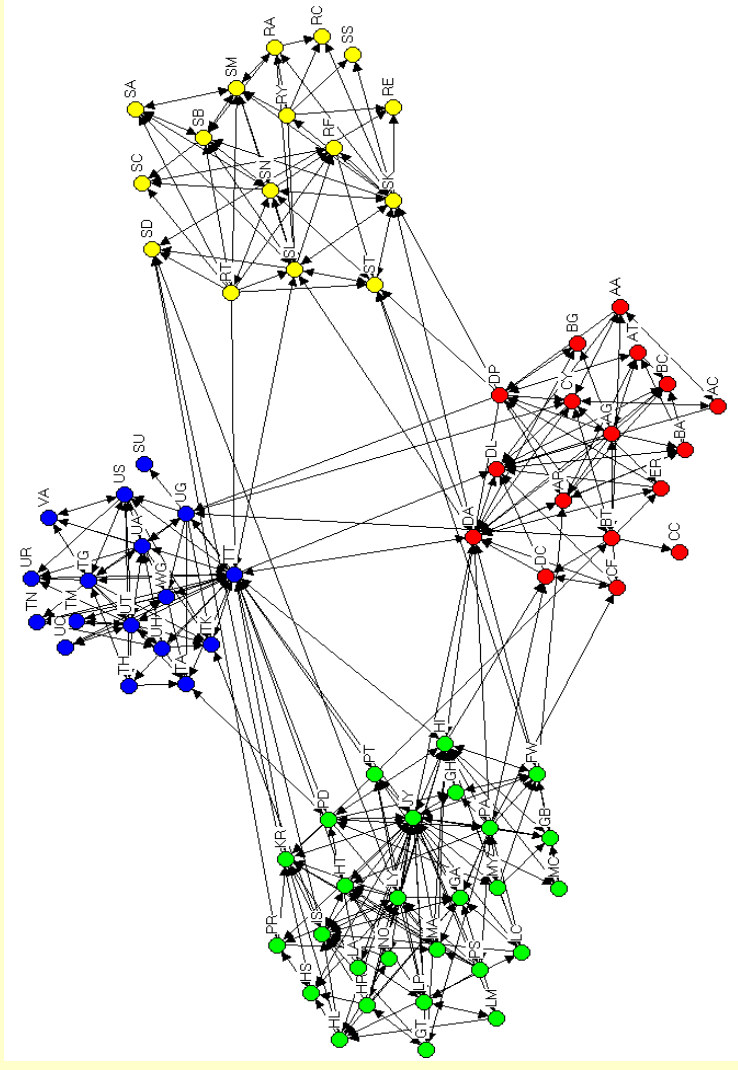


Organizational Network Analysis and Management

An Introduction

Jenny Ambrozek



Overview

- What is Organizational Network Analysis (ONA)?
- Why is interest growing?
- Who are the thought leaders?
- How is ONA used to improve organizational effectiveness?
- What does the future hold?

My ONA Expert Network

Presentation Contributors



Joe Cothrel



Rob Cross
Network Roundtable



Patti Anklam



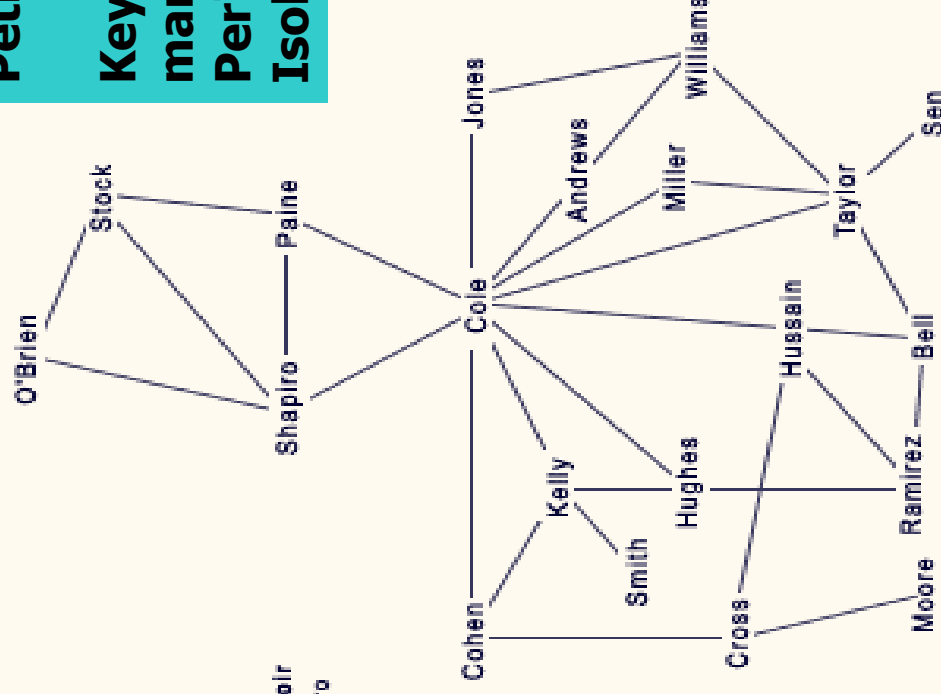
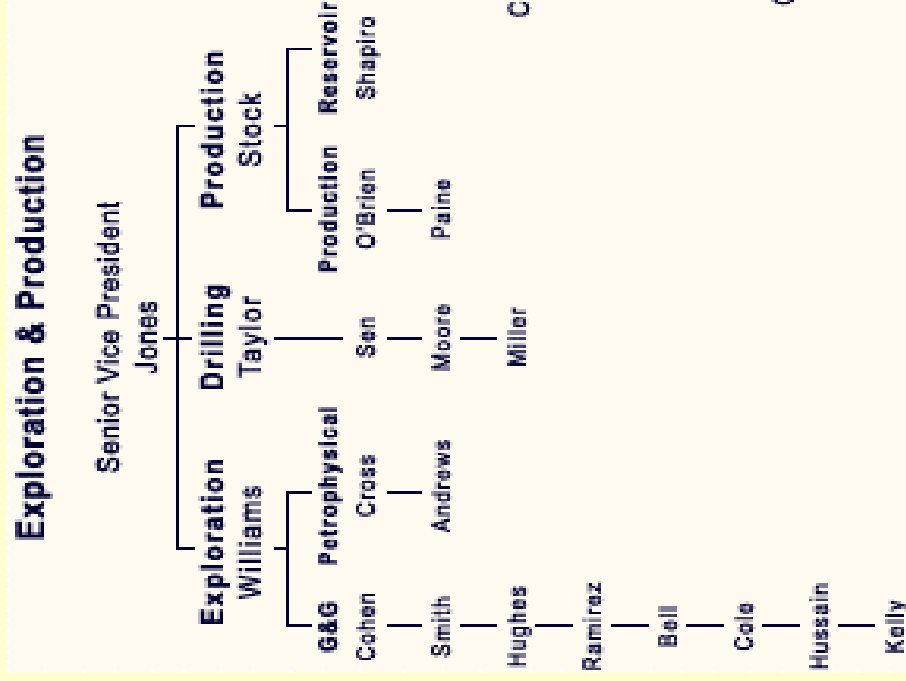
Valdis Krebs



Rob Becker₃
eHigher Education

*“Applies the techniques of social network analysis to provide an x-ray into the inner workings of an organization --- a powerful means of making invisible patterns of information flow and collaboration in strategically important groups visible
-Network Roundtable*

ONA Reveals Formal V Informal Structure



Exploration & Production

Petroleum Drilling

Key middle managers
Peripheral
Isolated group

A Network of Networks

“By examining the pattern of relationships among members of a population, groups emerge as highly interconnected sets of actors known as cliques and clusters. In network analytic language, they are densely-knit (most possible ties exist) and tightly-bounded, i.e., most relevant ties stay within the defined network ...Social network analysts want to know who belongs to a group, as well as the types and patterns of relations that define and sustain such a group.”*

Garton, Hawthornwaite & Wellman 1997 [Studying Online Social Networks](#)

Tie- connects a pair of actors by one or more relations .. in content, direction and strength.. often referred to as weak or strong

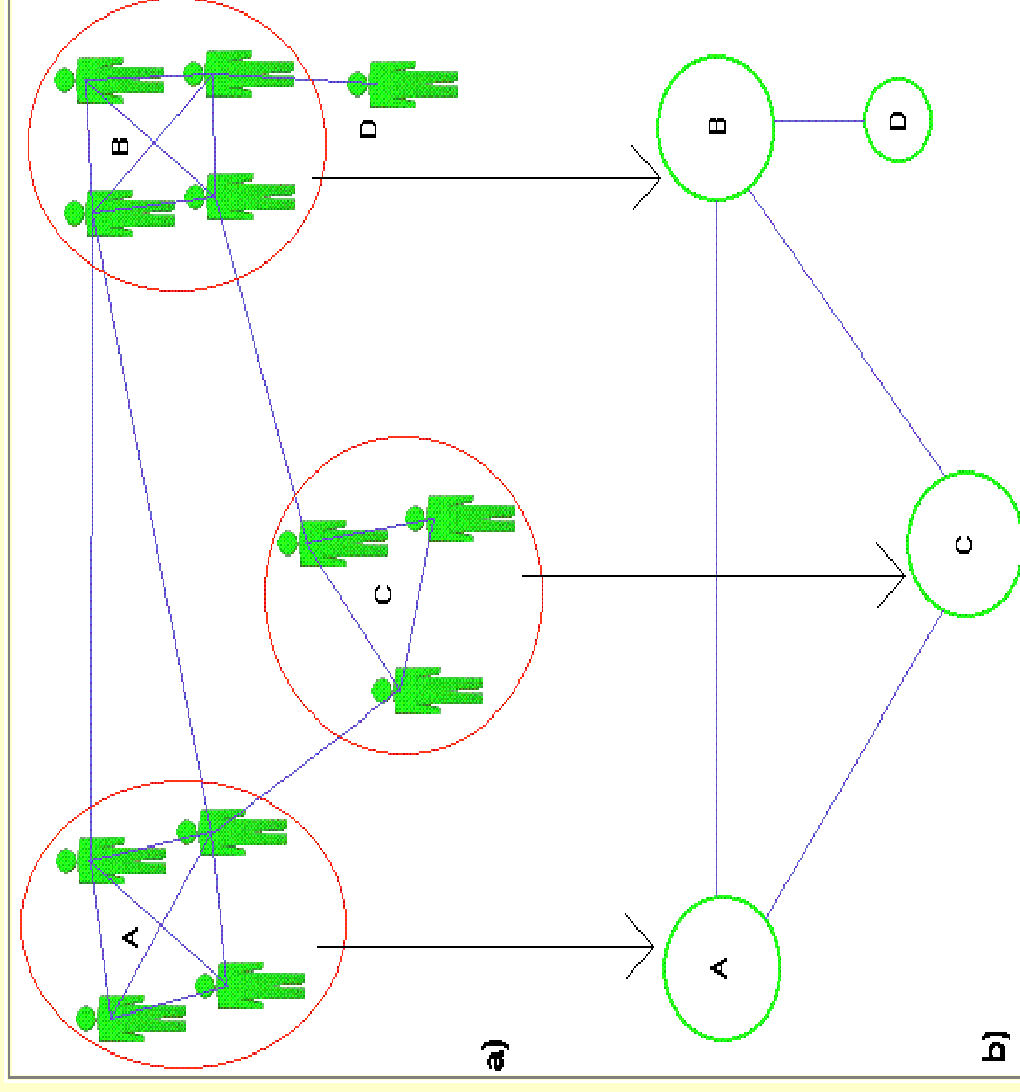
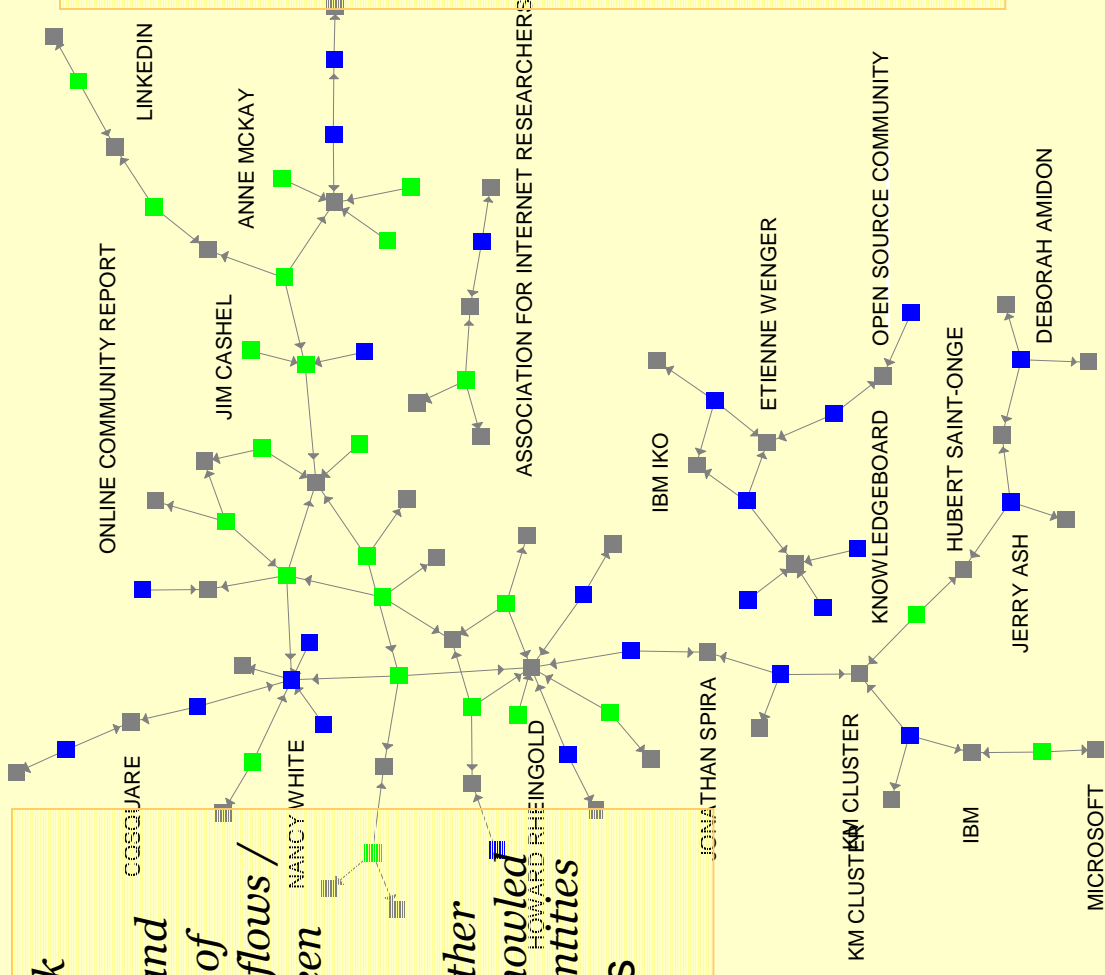


Figure 1: A network of networks.
(a) Ties between individuals;
(b) ties between network clusters.

Major Components of the Influence Network

“Social Network Analysis is a mathematical and visual analysis of relationships / flows / influence between people, groups, organizations, computers or other information/knowledge processing entities
– Valdis Krebs



■ Employee
■ Customer
● Other

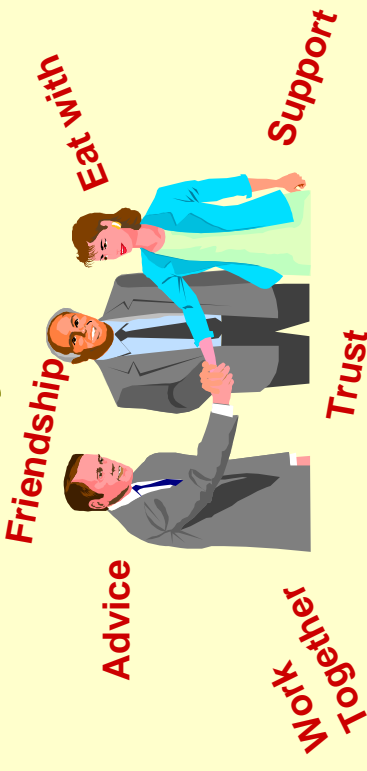
Ambrozek&Cothrel/
Valdis Krebs 2004

Looking outside your organization, who do you look to as an inspiring example or a good source of advice regarding virtual communities?

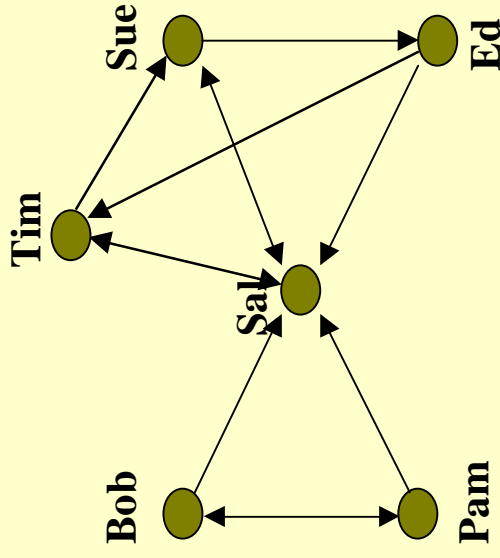
(Your answers can include communities, or organizations, or individuals. If you name an individual, please let us know organization and country. This question is optional.)

Relationships & network structure directly impact an organization's effectiveness

Building Blocks of Social Network Analysis



- **Relationships are:**
 - Multi-dimensional
 - 'Discovered' through the questions we ask
- **Network Structure** can facilitate or impede organizational effectiveness
 - Are certain people overly central?
 - Are some people loosely connected and under-utilized (but potentially highly connected in other groups)?
 - Are there divisive subgroups?
 - Is the network's level of connection sufficient?



Thought Leaders

Verna Allee *
Value Networks
 1997 *The Knowledge Evolution*

Mark Granovetter
Stanford University
 2000 Silicon Valley Networks
 1974 *Getting a Job: A Study of Contacts & Careers* (Harvard)

John Seely Brown
XEROX PARC
 1995 "People are the Company: Fast Company"

Wayne Baker *
Uni Michigan
 2000 Social Capital
 Generalized Reciprocity

Ronald Burt
Uni. of Chicago
 Structural Holes
 1992

Valdis Krebs*
[Inflow](#) 1987
 2001 Terrorist networks

Ranjay Gulati*
Northwestern
 Relationship assets

Barry Wellman
Uni. of Toronto
 1988 *Social Structures*

Steve Borgatti *
Boston College
[UCInet](#) 1988

Larry Prusak**
Tom Davenport*
Babson

Rob Cross***
UVA [Network Roundtable](#)
 Survey software
 2003 *The Hidden Power of Social Networks*
 Co-author **Andrew Parker**** (Stanford)
 2000 IKO

David Krackhardt **
Carnegie Mellon
 1993 "The Company Behind the Chart" HBR

Moreno
 1931- **Sociogram & Sociometry**

*Roundtable attendee 2004
 *Roundtable presenter 2005

Deep Roots

“The anthropologist saw the exact opposite. The time at the warehouse was anything but dead.

The tech reps weren't slacking off; they were doing some of their most valuable work. Field service, it turns out, is no job for lone wolves. It's a social activity. Like most work, it involves a community of professionals. The tech reps weren't just repairing machines; they were also coproducing insights about how to repair machines better.

These technicians were knowledge workers in the truest sense. And it was through conversations at the warehouse -- conversations that weren't a step in any formal "business process" or a box in any official "org chart" -- that knowledge transfer happened”

[John Seely Brown & Estee Solomon Gray 1995](#)

“Today’s business relationships encompass much more than the tangible flows of products, services, and revenue that we have focused on in the past. As we come to depend more and more on exchanges of knowledge and other intangibles with our customers and business partners, success depends on building a rich web of value creating relationships. New approaches and methods are needed to understand the reality of value creation.”

[Verna Allee \(2000\)](#)

“By having workers fill out a 15- to 20-minute online survey, Cross can chart who people communicate with, how much time is spent preparing for which meetings, and where the bottlenecks are. “Then I ask executives: ‘What decisions are you making that others can make?’” says Cross. “Are there aspects of your role that you could let go of?”
~ Rob Cross

Relationship Capital

Why ONA Now?
Search for valuable
over quantity
of connections

Globalization-

Geographically spread
Mobile workforces
Competitive business
environment seeking
business value

“Globalization and the Internet create great new opportunities, but they also ratchet up the intensity of competition and generate more work -- especially with the existing corporate structure still hanging on tightly.”

~ Shoshana Zuboff
Business Week, Sept 23, 2005

“The Real Reasons You’re Working So Hard”

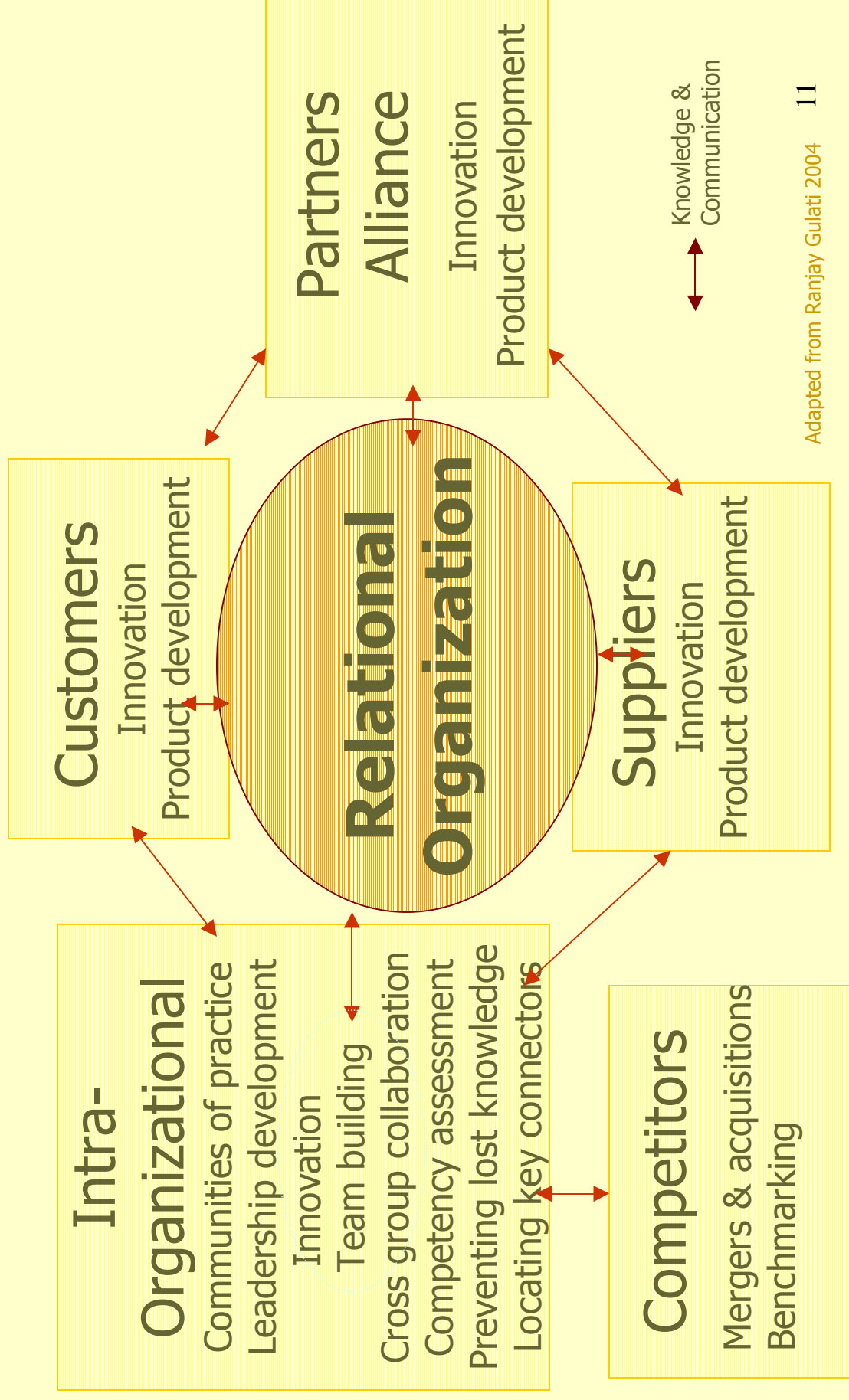
Social Network Analysis

Collaboration Tools

Email, IM, Web portals, Blogs, Wikis
Wireless PDA’s
Competitive business

10

ONA Applications



ONA Yields Results

“Halliburton has regularly employed ONA in many of its efforts to systematically build 19 CoP’s across a variety of business disciplines and technical services. The community initiatives had to show measurable results directly linked to financial performance. By applying targeted interventions based on ONA assessments, Halliburton has been able to do just that across a number of internal and external communities. As an example, a global CoP within a critical business unit produced the following measurable results in one year:

- Lowered customer dissatisfaction by 24%*
- Reduced cost of poor quality by 66%*
- Increased new product revenue by 22%*
- Improved operational productivity by more than 10%..”*

[Cross, Laseter & Parker 2005 *Assessing and Improving Communities of Practice with Organizational Network Analysis* Network Roundtable, UVA](#)

Network Value

“Our research found that successful companies build and leverage what we call relational capital — the value of their network or relationships with customers, suppliers and alliance partners,” said Professor Ranjay Gulati of Kellogg. “Historically, companies developed great expertise and elaborate processes around managing physical assets, but as the knowledge economy takes hold globally, companies are increasingly applying this same disciplined approach to managing their network of relationships, effectively treating these relationships as assets.”

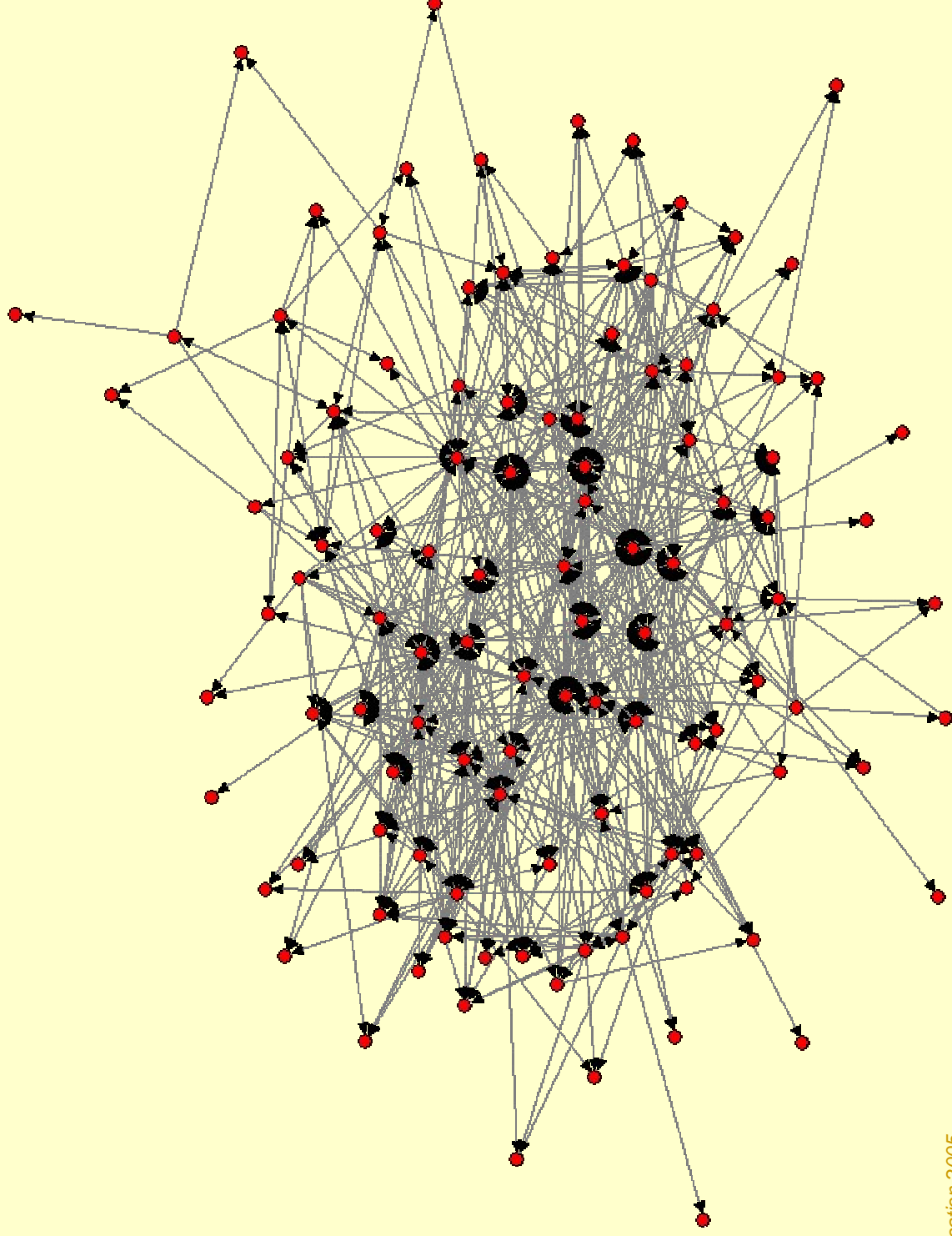
[Ranjay Gulati 2002](#)
[Booz Allen Study](#)

“Mr. Burt, whose latest findings will appear in the American Journal of Sociology this fall, studied managers in the supply chain of Raytheon.... Mr. Burt asked managers to write down their best ideas about how to improve business operations and then had two executives at the company rate their quality. It turned out that the highest-ranked ideas came from managers who had contacts outside their immediate work group. The reason, Mr. Burt said, is that their contacts span what he calls “structural holes,” the gaps between discrete groups of people.”

[Ronald Burt 2004](#)
[New York Times May 22, 2004](#)

Energy

“When you interact with this person, how does it typically affect your energy?”



Basic Steps in an ONA

- Identify the business problem and network boundaries
- Collect data about the relevant relationships
- Use computer analysis tools
- Validate the findings through interviews and workshops
- Design and implement interventions to change the network
- Follow up, assess outcomes

What Does the Future Hold?

- Increase in organizations using ONA
- Reduction in hierarchically structured organizations
- Increase in organizations structures incorporating partners, suppliers & customers
- Greater attention to skill development in collaboration & networking techniques
- New roles e.g. collaboration facilitator, content steward
- Growing interest in “thinking” & thinking “time” within organizations

Sources

- Anklam, Patti, 2005 *GEO Presentation*
- Cothrel J, & Ambrozek J., 2004 *Online Communities in Business*
- Cross, R. & Parker A., 2003 *Hidden Power of Social Networks*
- eHigher Education , 2005 *ONA Essentials*
- Haas A. & Cothrel J., 2003 *Study of a Software & Services Firm*
- Network Roundtable University of Virginia *Published papers*
- Ranjay Gulati, 2005 Network Roundtable Presentation
- John Seely Brown & Estee Solomon Gray 1995 *The People are the Company*, Fast Company

For a complete list go to the [Online Communities in Business Wiki](#)
(Requires registering with SocialText, the software provider.)

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